

August 2000

22603-BRO-0000-06000

FORMER BROWN COMPRESSOR STATION CHARACTERIZATION REPORT

MEDINA COUNTY, OHIO



Prepared for

Columbia Gas Transmission Corporation
Environmental Affairs-Remediation
1700 MacCorkle Avenue, S.E.
Charleston, West Virginia 25314

Prepared by

Baker

Baker Environmental, Inc.
Coraopolis, Pennsylvania

2.0 ENVIRONMENTAL SETTING

2.1 Physical Setting

The CS is in an area of low topographic relief and appears to be in a flood-prone area associated with Yaral Run. The CS is at an elevation of approximately 1,080 feet above mean sea level (msl) in the watershed of Yaral Run. Surrounding ridges are up to approximately 1,250 feet above msl (USGS, 1982).

The former operating portion of this CS (Figure 1-2) occupies approximately one acre. It is a rectangular area approximately 180 feet wide by 290 feet long, and is surrounded by a 4-foot high farm fence with a lockable gate. There is only one building on site; a portable shed used as a field office. The surface cover of the CS is grass and gravel. There does not appear to be any definitive slope or drainage channel for surface water runoff.

Land use bordering the CS includes grassland and Pealer Mill Road to the north, and agricultural land to the east, south and west.

2.2 Climate

The geographic area of the portion of Ohio in which the CS is located receives a mean annual precipitation of approximately 38.5 inches. Prevailing winds are generally from the south-southwest. Temperatures vary widely, with average lows during the winter months reaching 17 degrees Fahrenheit to average highs during the summer months reaching 82 degrees Fahrenheit. The greatest levels of precipitation occur between April and September. The average seasonal snowfall is approximately 30 inches. (Soil Survey of Knox County, Ohio, 1986).

2.3 Surface Water Hydrology

The site is located approximately 40 feet west of Yaral Run, which flows south in parallel to the eastern fenceline of the station. Yaral Run flows into Jelloway Creek, approximately 1.5 miles beyond the station (USGS, 1982). Because the site is relatively flat, surface drainage is not prominent in any given direction. There is an 8-inch diameter storm sewer pipe that drains from the compressor station into Yaral Run approximately 40 feet to the east.

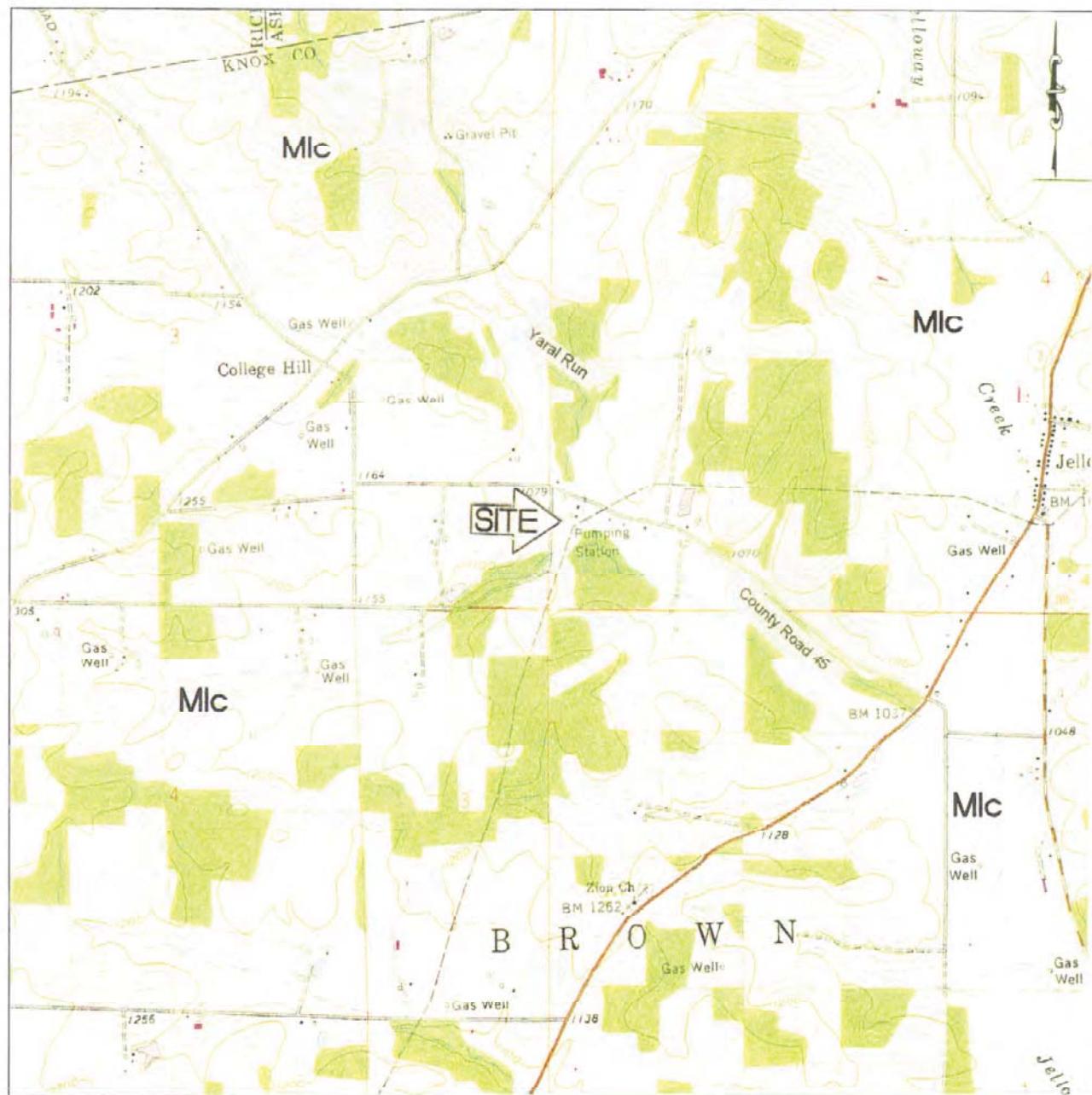
2.4 Geology and Soils

The Former Brown CS is located on the glaciated, dissected Allegheny Plateau Physiographic Province (Figure 2-1). The bedrock of this region is of the Mississippian System/Logan and Cuyahoga Formations. This bedrock is sedimentary in origin, consisting mainly of sandstone, siltstone, and shale.

Soils at the CS are identified as Orrville silt loam (Or). This series consists of deep, nearly level, somewhat poorly drained soil on flood plains. Soils are typically a gray and brown friable silt loam to loam to approximately three feet bgs. Below this depth is a gravelly or sandy loam to approximately five feet bgs in some areas, while other areas of this series have stratified sand and gravel layers (Soil Survey of Knox County, Ohio, 1986).

2.5 Hydrogeology and Groundwater Quality

In valley bottoms, useable quantities of groundwater are generally obtained from both shallow dug wells in unconsolidated deposits and/or wells installed into bedrock formations. In other topographic areas, wells completed in bedrock or springs are a source of potable water supplies. Dug wells in the alluvium are common and generally yield water in sufficient quantities for domestic use. About 75 percent of the drilled wells in bedrock aquifers produce sufficient water for domestic purposes. Studies by state and



UNDERLYING THE CS IS MISSISSIPPIAN SYSTEM/
LOGAN AND CUYAHOGA FORMATIONS (Mic)
(UNDIVIDED) BEDROCK. (CONSISTING MAINLY
OF SANDSTONE, SILTSTONE, AND SHALE;
THIN TO THICK BEDDING; 0 TO 650 FEET THICKNESS)

SOURCE: U.S.G.S. 7.5 MINUTE
TOPOGRAPHIC MAP,
JELLOWAY QUADRANGLE, OHIO.

2000 0 1000 2000
1 inch = 2000 ft.



QUADRANGLE LOCATION

Baker

Baker Environmental, Inc.

FIGURE 2-1
SITE GEOLOGY
FORMER BROWN COMPRESSOR STATION

COLUMBIA GAS TRANSMISSION CORPORATION
KNOX COUNTY, OHIO

sediment sample were collected both up stream and down stream of the compressor station. Because the site has a water supply well, a groundwater sample was collected; as stated in the CWP (June 1996) and the SAP, groundwater characterization will be conducted if contaminated soils are detected at the groundwater interface or if the site's water supply well has been affected. In addition, one groundwater grab sample also was collected from three different borings (3 water samples total) to characterize the shallow groundwater horizon. In all, ten PRAs were evaluated, along with background and PCB samples.

Appendix A of the CWP (June 1996) provides a detailed presentation of SOPs for the conduct of field activities. To facilitate review of the characterization results, the following subsections briefly describe the methodologies used to collect samples and/or other components of the field characterization effort. In addition, all investigative derived wastes (IDW) will be disposed in accordance with SOP #20. Also discussed are SOP modifications necessary to complete the required field effort.

3.1.1 Soils

Surface soil sampling (< 1 foot bgs) at this site generally was performed using stainless steel hand trowels, disposable sample spoons, or the Geoprobe macrocore soil sampler following methodologies described in SOP #003 of the CWP (June 1996). Surface soil samples for PCBs and inorganics were obtained from the 0 to 0.5 foot interval. Surface soil samples for volatile and semi-volatile organic compounds (VOCs & SVOCs), benzene, toluene, ethylbenzene, total xylenes (BTEX), and TPH were obtained from a depth interval of 0.5 to 1 foot bgs. Where gravel fill was present, soil samples were collected from native soil after removing the gravel. The depth below ground surface of the native soils varied from 0.1 to 0.7 feet bgs.

Subsurface soil sampling required the use of a direct push (Geoprobe) method. All of the soil samples were logged in the field notebook using the Unified Soil Classification System. Headspace readings were collected for subsurface soil samples using a PID and

can be found on the Test Boring Logs presented in Appendix C. No other field instrumentation was utilized to screen soils.

3.1.2 Surface Water and Sediment Sampling

Surface water and sediment sampling was completed at Yaral Run (PRA #10). Sampling at this PRA generally was performed using a stainless steel hand auger for sediment collection and surface water samples were collected directly into the appropriate sample containers. Sediment samples were homogenized in a stainless steel bowl prior to placement into the appropriate sample containers. Two surface water and two sediment samples were collected as part of this characterization effort. The down stream (down gradient) sediment and surface water samples were collected prior to the up stream (up gradient) samples.

3.1.3 Groundwater Sampling

Two groundwater samples (including a duplicate sample) were collected from the on-site groundwater well. The site's water well is no longer in use. A groundwater grab sample was collected by opening a valve adjacent to where the discharge piping exits the ground. After opening the valve, the water was allowed to run for several minutes prior to sample collection. The groundwater grab samples were collected directly into the sample containers from the discharge piping.

In addition, one groundwater sample each was collected from three Geoprobe borings during the characterization. These samples were collected by lowering a stainless steel discrete groundwater sampler and dedicated discharge tubing into the open Geoprobe borehole and applying a vacuum to the line. The groundwater was brought to the surface through the vacuum and was allowed to discharge directly into the appropriate sample containers.

Table 4-3
Summary of Analytical Results

PRA		0	
PRA Description	BACKGROUND		
Sample Type	Normal Sample		
Sample Id	BRN-ASB016-70001	BRN-ASB017-70001	BRN-ASB018-70001
Depth - ft bgs	1 - 3	1 - 3	1 - 3
Collected Date	05/20/97	05/20/97	05/20/97
Laboratory	Ecology and Environment, Inc.	Ecology and Environment, Inc.	Ecology and Environment, Inc.
Sample Collector	Baker Environmental, Inc.	Baker Environmental, Inc.	Baker Environmental, Inc.
Result Units	MG/KG	MG/KG	MG/KG
Action Level		> CAL*	> CAL*
Analyte		Result Flag	Result Flag
Category		> CAL*	> CAL*
VOA	METHYLENE CHLORIDE	85	ND
	TETRACHLOROETHYLENE(PCE)	12	ND
	CHLOROBENZENE	1600	ND
	GASOLINE	ND	ND
BNA	NAPHTHALENE	1600	ND
	3- AND/OR 4-METHYLPHENOL	390	ND
	DIESEL	ND	ND
P/PCB	AROCOLOR-1254	1	ND
METAL	BARIUM, TOTAL	5500	57.1
	BERYLLIUM, TOTAL	160	ND
	CHROMIUM, TOTAL	230	15.7 J
	LEAD, TOTAL	400	ND
	NICKEL, TOTAL	1600	15.7
	ARSENIC, TOTAL	.43	18.7 J X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.
 J flag - Numerical value is an estimated quantity.
 ND indicates Non-Detect
 Blank cells in result column indicate an analysis was not performed for that analyte.

Table 4-3
Summary of Analytical Results

PRA					
RANDOM PCB SAMPLES					
PRA Description	Sample Type	Normal Sample	BRN-ASB013-70001	BRN-ASB014-70001	BRN-ASB015-70001
Sample Id	BRN-ASB013-70001				
Depth - ft bgs	0 .5		0 .5	0 .5	0 .5
Collected Date	05/20/97		05/20/97	05/20/97	05/20/97
Laboratory	Ecology and Environment, Inc.		Ecology and Environment, Inc.	Ecology and Environment, Inc.	Ecology and Environment, Inc.
Sample Collector	Baker Environmental, Inc.		Baker Environmental, Inc.	Baker Environmental, Inc.	Baker Environmental, Inc.
Result Units	MG/KG		MG/KG	MG/KG	MG/KG
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag
VOA	METHYLENE CHLORIDE	85			
	TETRACHLOROETHYLENE(PCE)	12			
	CHLOROBENZENE	1600			
	GASOLINE				
BNA	NAPHTHALENE	1600			
	3- AND/OR 4-METHYLPHENOL	390			
	DIESEL				
P/PCB	AROCLOR-1254	1	ND		ND
METAL	BARIUM, TOTAL	5500			ND
	BERYLLIUM, TOTAL	160			
	CHROMIUM, TOTAL	230			
	LEAD, TOTAL	400			
	NICKEL, TOTAL	1600			
	ARSENIC, TOTAL	.43			

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.
J flag - Numerical value is an estimated quantity.
ND indicates Non-Detect
Blank cells in result column indicate an analysis was not performed for that analyte.

Table 4-3
Summary of Analytical Results

PRA	1	2
PRA Description	PRA #1-DRIPT AT AREA	PRA #2-USED OIL UT
Sample Type	Normal Sample	Normal Sample
Sample Id	BRN-ASB001-70001	BRN-ASB002-70001
Depth - ft bgs	4 - 5	10 - 12
Collected Date	05/19/97	05/19/97
Laboratory	Ecology and Environment, Inc.	Ecology and Environment, Inc.
Sample Collector	Baker Environmental, Inc.	Baker Environmental, Inc.
Result Units	MG/KG	MG/KG
Action Level	Result Flag	> CAL*
Analyte		
VOA		
METHYLENE CHLORIDE	85	
TETRACHLOROETHYLENE(PCE)	12	
CHLOROBENZENE	1600	
GASOLINE	ND	ND
NAPHTHALENE	1600	ND
3- AND/OR 4-METHYLPHENOL	390	ND
DIESEL	ND	ND
BNA		
AROCLOR-1254	1	ND
P/PCB		
BARIUM, TOTAL	5500	37.1
BERYLLIUM, TOTAL	160	ND
CHROMIUM, TOTAL	230	9.0
LEAD, TOTAL	400	ND
NICKEL, TOTAL	1600	ND
ARSENIC, TOTAL	.43	14.5 J X 39.2 J X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.
 J flag - Numerical value is an estimated quantity.
 ND indicates Non-Detect
 Blank cells in result column indicate an analysis was not performed for that analyte.

Table 4-3
Summary of Analytical Results

PRA						
PRA Description						
Sample Type						
Sample Id	BRN-ASB003-70002	BRN-ASB004-70001	BRN-ASB020-70001			
Depth - ft bgs	12 - 14	0 - 1		12 - 14		
Collected Date	05/19/97	05/19/97		05/19/97		
Laboratory	Ecology and Environment, Inc.	Ecology and Environment, Inc.	Ecology and Environment, Inc.			
Sample Collector	Baker Environmental, Inc.	Baker Environmental, Inc.	Baker Environmental, Inc.			
Result Units	MG/KG	MG/KG	MG/KG			
Action Level				> CAL*		
Analyte				Result Flag		
Category					> CAL*	
VOA					Result Flag	> CAL*
METHYLENE CHLORIDE	85	ND		ND		ND
TETRACHLOROETHYLENE(PCE)	12	0.011		ND		ND
CHLOROBENZENE	1600	ND		ND		ND
GASOLINE		ND		ND		ND
NAPHTHALENE	1600	ND		ND		ND
3- AND/OR 4-METHYLPHENOL	390	ND		ND		ND
DIESEL		12		320 J		ND
AROCLOR-1254	1	ND		ND		ND
P/PCB						
BARIUM, TOTAL	5500	66.1		99.5		66.5
METAL						
BERYLLIUM, TOTAL	160	ND		ND		ND
CHROMIUM, TOTAL	230	21.8		16.5		15.0
LEAD, TOTAL	400	ND		ND		ND
NICKEL, TOTAL	1600	22.5		14.1		17.8
ARSENIC, TOTAL	.43	17.5 J	X	18.6 J	X	16.3 J X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.
 J flag - Numerical value is an estimated quantity.
 ND indicates Non-Detect
 Blank cells in result column indicate an analysis was not performed for that analyte.

Table 4-3
Summary of Analytical Results

PRA	3					
PRA Description	PRA #3-REBOILER					
Sample Type	Normal Sample					
Sample Id	BRN-ASB005-70001	BRN-ASB005-70002				BRN-ASB005-70003
Depth - ft bgs	0 - 1	1.5 - 2.5				4 - 5
Collected Date	05/19/97	05/19/97				05/19/97
Laboratory	Ecology and Environment, Inc.	Ecology and Environment, Inc.				Ecology and Environment, Inc.
Sample Collector	Baker Environmental, Inc.	Baker Environmental, Inc.				Baker Environmental, Inc.
Result Units	MG/KG	MG/KG				MG/KG
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag	> CAL*
VOA	METHYLENE CHLORIDE	85				
	TETRACHLOROETHYLENE(PCE)	12				
	CHLOROBENZENE	1600				
	GASOLINE	ND				
BNA	NAPHTHALENE	1600				
	3- AND/OR 4-METHYLPHENOL	390				
	DIESEL	ND				ND
P/PCB	AROCLOR-1254	1				
METAL	BARIUM, TOTAL	5500				
	BERYLLIUM, TOTAL	160				
	CHROMIUM, TOTAL	230				
	LEAD, TOTAL	400				
	NICKEL, TOTAL	1600				
	ARSENIC, TOTAL	.43				

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.
J flag - Numerical value is an estimated quantity.
ND indicates Non-Detect
Blank cells in result column indicate an analysis was not performed for that analyte.

Table 4-3
Summary of Analytical Results

PRA	4	PRA #4-CURRENT COMPRESSOR SLAB			
PRA Description	Normal Sample	BRN-ASB006-70001			
Sample Type	BRN-ASB006-70002	BRN-ASB006-70003			
Sample Id	BRN-ASB006-70001	BRN-ASB006-70002	BRN-ASB006-70003		
Depth - ft bgs	0 - 1	1.5 - 2.5	1.5 - 2.5	4 - 5	4 - 5
Collected Date	05/19/97	05/19/97	05/19/97	05/19/97	05/19/97
Laboratory	Ecology and Environment, Inc.	Ecology and Environment, Inc.	Ecology and Environment, Inc.	Ecology and Environment, Inc.	Ecology and Environment, Inc.
Sample Collector	Baker Environmental, Inc.	Baker Environmental, Inc.	Baker Environmental, Inc.	Baker Environmental, Inc.	Baker Environmental, Inc.
Result Units	MG/KG	MG/KG	MG/KG	MG/KG	MG/KG
Action Level					
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag
VOA	METHYLENE CHLORIDE	85			
	TETRACHLOROETHYLENE(PCE)	12			
	CHLOROBENZENE	1600			
	GASOLINE		ND		
BNA	NAPHTHALENE	1600			
	3- AND/OR 4-METHYLPHENOL	390			
	DIESEL		ND		ND
P/PCB	AROCLOR-1254	1	0.29		
METAL	BARIUM, TOTAL	5500			
	BERYLLIUM, TOTAL	160		380	980
	CHROMIUM, TOTAL	230			
	LEAD, TOTAL	400			
	NICKEL, TOTAL	1600			
	ARSENIC, TOTAL	.43			

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.
J flag - Numerical value is an estimated quantity.
ND indicates Non-Detect
Blank cells in result column indicate an analysis was not performed for that analyte.

Table 4-3
Summary of Analytical Results

PRA	5	PRA #5-FORMER COMPRESSOR BUILDING AREA		
PRA Description		Normal Sample		
Sample Type		BRN-ASS001-40001	BRN-ASB007-70001	BRN-ASB007-70002
Sample Id	BRN-ASS001-40001	BRN-ASB007-70001	BRN-ASB007-70002	
Depth - ft bgs	0 .5	0 .1		1.5 - 2.5
Collected Date	05/19/97	05/19/97		05/19/97
Laboratory	Ecology and Environment, Inc.	Ecology and Environment, Inc.	Ecology and Environment, Inc.	
Sample Collector	Baker Environmental, Inc.	Baker Environmental, Inc.	Baker Environmental, Inc.	
Result Units	MG/KG	MG/KG	MG/KG	MG/KG
Action Level		> CAL*	> CAL*	> CAL*
Analyte		Result Flag	Result Flag	Result Flag
VOA	METHYLENE CHLORIDE	85		
	TETRACHLOROETHYLENE(PCE)	12		
	CHLOROBENZENE	1600		
	GASOLINE	ND	ND	ND
BNA	NAPHTHALENE	1600		
	3- AND/OR 4-METHYLPHENOL	390		
	DIESEL			44
P/PCB	AROCOLOR-1254	1	0.086 J	ND
METAL	BARIUM, TOTAL	5500		ND
	BERYLLIUM, TOTAL	160		ND
	CHROMIUM, TOTAL	230		
	LEAD, TOTAL	400		
	NICKEL, TOTAL	1600		
	ARSENIC, TOTAL	.43		

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.
J flag - Numerical value is an estimated quantity.
ND indicates Non-Detect
Blank cells in result column indicate an analysis was not performed for that analyte.

Table 4-3
Summary of Analytical Results

PRA	
PRA Description	
Sample Type	
Sample Id	BRN-ASB007-70003
Depth - ft bgs	4 . 5
Collected Date	05/19/97
Laboratory	Ecology and Environment, Inc.
Sample Collector	Baker Environmental, Inc.
Result Units	MG/KG
Action Level	
Analyte	
Category	
VOA	METHYLENE CHLORIDE
	85
	TETRACHLOROETHYLENE(PCE)
	12
	CHLOROBENZENE
	1600
	GASOLINE
	ND
BNA	NAPHTHALENE
	1600
	3- AND/OR 4-METHYLPHENOL
	390
	DIESEL
	170
P/PCB	AROCOLOR-1254
	1
METAL	BARIUM, TOTAL
	5500
	BERYLLIUM, TOTAL
	160
	CHROMIUM, TOTAL
	230
	LEAD, TOTAL
	400
	NICKEL, TOTAL
	1600
	ARSENIC, TOTAL
	.43

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.
J flag - Numerical value is an estimated quantity.
ND indicates Non-Detect
Blank cells in result column indicate an analysis was not performed for that analyte.

Table 4-3
Summary of Analytical Results

PRA	
PRA Description	
Sample Type	
Sample Id	BRN-ASB008-70003
Depth - ft bgs	4 . 5
Collected Date	05/19/97
Laboratory	Ecology and Environment, Inc.
Sample Collector	Baker Environmental, Inc.
Result Units	MG/KG
Action Level	
Analyte	
Category	
VOA	METHYLENE CHLORIDE
	85
	TETRACHLOROETHYLENE(PCE)
	12
	CHLOROBENZENE
	1600
	GASOLINE
	ND
BNA	NAPHTHALENE
	1600
	3- AND/OR 4-METHYLPHENOL
	390
	DIESEL
	ND
P/PCB	AROCOLOR-1254
	1
METAL	BARIUM, TOTAL
	5500
	BERYLLIUM, TOTAL
	160
	CHROMIUM, TOTAL
	230
	LEAD, TOTAL
	400
	NICKEL, TOTAL
	1600
	ARSENIC, TOTAL
	.43

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.
J flag - Numerical value is an estimated quantity.
ND indicates Non-Detect
Blank cells in result column indicate an analysis was not performed for that analyte.

Table 4-3
Summary of Analytical Results

PRA	6	PRA #6-FORMER TANK/FORMER REGULATOR BLDG AREA			
PRA Description		Field Duplicate (Rep)			
Sample Type		BRN-ASB010-71001			
Sample Id	BRN-ASB009-70003	BRN-ASB010-71001	Normal Sample		
Depth - ft bgs	4 . 5	10 . 12	BRN-ASB010-70001		
Collected Date	05/19/97	05/20/97	10 . 12		
Laboratory	Ecology and Environment, Inc.	Ecology and Environment, Inc.	05/20/97		
Sample Collector	Baker Environmental, Inc.	Baker Environmental, Inc.	Ecology and Environment, Inc.		
Result Units	MG/KG	MG/KG	Baker Environmental, Inc.		
Action Level			Baker Environmental, Inc.		
Category	Analyte	Result Flag	> CAL*	Result Flag	> CAL*
VOA	METHYLENE CHLORIDE	85		ND	0.007
	TETRACHLOROETHYLENE(PCE)	12		ND	ND
	CHLOROBENZENE	1600		ND	ND
	GASOLINE	ND		ND	ND
BNA	NAPHTHALENE	1600		ND	ND
	3- AND/OR 4-METHYLPHENOL	390		ND	ND
	DIESEL	520 J		20 J	10 J
P/PCB	AROCOLOR-1254	1	ND	ND	ND
METAL	BARIUM, TOTAL	5500		50.5 J	86.3 J
	BERYLLIUM, TOTAL	160		ND	ND
	CHROMIUM, TOTAL	230		13.4 J	20.8 J
	LEAD, TOTAL	400		ND	ND
	NICKEL, TOTAL	1600		22.6	32.7
	ARSENIC, TOTAL	.43		15.3 J	X
				16.7 J	X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.
 J flag - Numerical value is an estimated quantity.
 ND indicates Non-Detect
 Blank cells in result column indicate an analysis was not performed for that analyte.

Table 4-3
Summary of Analytical Results

PRA	7			
PRA Description	PRA #7-DEHY CONTACTOR			
Sample Type	Normal Sample			
Sample Id	BRN-ASB011-70001	BRN-ASB012-70001	BRN-ASB012-70002	
Depth - ft bgs	10 - 12	0 - 1	1.5 - 2.5	
Collected Date	05/20/97	05/20/97	05/20/97	
Laboratory	Ecology and Environment, Inc.	Ecology and Environment, Inc.	Ecology and Environment, Inc.	
Sample Collector	Baker Environmental, Inc.	Baker Environmental, Inc.	Baker Environmental, Inc.	
Result Units	MG/KG	MG/KG	MG/KG	
Action Level			> CAL*	Result Flag
Category	Analyte	Result Flag	> CAL*	Result Flag
VOA	METHYLENE CHLORIDE	85	ND	
	TETRACHLOROETHYLENE(PCE)	12	ND	
	CHLOROBENZENE	1600	ND	
	GASOLINE	ND	ND	
BNA	NAPHTHALENE	1600	ND	
	3- AND/OR 4-METHYLPHENOL	390	ND	
P/PCB	DIESEL	20	36	7.0
	AROCOLOR-1254	1	ND	ND
METAL	BARIUM, TOTAL	5500	11.2	
	BERYLLIUM, TOTAL	160	ND	
	CHROMIUM, TOTAL	230	4.8 J	
	LEAD, TOTAL	400	ND	
	NICKEL, TOTAL	1600	ND	
	ARSENIC, TOTAL	.43	6.7 J X	

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.
 J flag - Numerical value is an estimated quantity.
 ND indicates Non-Detect
 Blank cells in result column indicate an analysis was not performed for that analyte.

Table 4-3
Summary of Analytical Results

PRA		9	
PRA Description		PRA #9-DRUM STORAGE AREA	
Sample Type		Normal Sample	
Sample Id	BRN-ASB012-70003	BRN-ASB019-70001	BRN-ASB019-70002
Depth - ft bgs	4 . 5	0 . 1	1.5 - 2.5
Collected Date	05/20/97	05/20/97	05/20/97
Laboratory	Ecology and Environment, Inc.	Ecology and Environment, Inc.	Ecology and Environment, Inc.
Sample Collector	Baker Environmental, Inc.	Baker Environmental, Inc.	Baker Environmental, Inc.
Result Units	MG/KG	MG/KG	MG/KG
Action Level	Result Flag	> CAL*	Result Flag
Analyte			
VOA			
METHYLENE CHLORIDE	85		ND
TETRACHLOROETHYLENE(PCE)	12		ND
CHLOROBENZENE	1600		ND
GASOLINE		ND	ND
NAPHTHALENE	1600		ND
3- AND/OR 4-METHYLPHENOL	390		ND
DIESEL		ND	ND
P/PCB			
AROCOLOR-1254	1	ND	ND
METAL			
BARIUM, TOTAL	5500		84.1
BERYLLIUM, TOTAL	160		ND
CHROMIUM, TOTAL	230		13.4 J
LEAD, TOTAL	400		ND
NICKEL, TOTAL	1600		17.7
ARSENIC, TOTAL	.43		14.9 J X 12.4 J X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.
 J flag - Numerical value is an estimated quantity.
 ND indicates Non-Detect
 Blank cells in result column indicate an analysis was not performed for that analyte.

Table 4-3
Summary of Analytical Results

PRA		10	
PRA Description		PRA #10-YARAL RUN	
Sample Type	Field Duplicate (Rep)	Normal Sample	
Sample Id	BRN-ASB019-70003	BRN-ASD001-31001	BRN-ASD001-30001
Depth - ft bgs	4 . 5	0 . 0	0 . 0
Collected Date	05/20/97	05/19/97	05/19/97
Laboratory	Ecology and Environment, Inc.	Ecology and Environment, Inc.	Ecology and Environment, Inc.
Sample Collector	Baker Environmental, Inc.	Baker Environmental, Inc.	Baker Environmental, Inc.
Result Units	MG/KG	MG/KG	MG/KG
Action Level	Result Flag	> CAL*	Result Flag
Analyte			
VOA			
METHYLENE CHLORIDE	85	ND	ND
TETRACHLOROETHYLENE(PCE)	12	0.011	ND
CHLOROBENZENE	1600	ND	ND
GASOLINE		ND	ND
NAPHTHALENE	1600	ND	ND
3- AND/OR 4-METHYLPHENOL	390	ND	0.83 J
DIESEL	510 J	12	8.7 J
P/PCB			
AROCOLOR-1254	1	ND	ND
METAL			
BARIUM, TOTAL	5500	136	57.8
BERYLLIUM, TOTAL	160	ND	ND
CHROMIUM, TOTAL	230	19.3 J	10.9
LEAD, TOTAL	400	38.7 J	ND
NICKEL, TOTAL	1600	15.4	13.6
ARSENIC, TOTAL	.43	15.8 J	X
		15.4 J	X
			9.9 J
			X

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.
J flag - Numerical value is an estimated quantity.
ND indicates Non-Detect
Blank cells in result column indicate an analysis was not performed for that analyte.

Table 4-3
Summary of Analytical Results

PRA			
PRA Description			
Sample Type			
Sample Id	BRN-ASD002-30001		
Depth - ft bgs	0 · 0		
Collected Date	05/19/97		
Laboratory	Ecology and Environment, Inc.		
Sample Collector	Baker Environmental, Inc.		
Result Units	MG/KG		
Category	Analyte	Action Level	Result Flag
VOA	METHYLENE CHLORIDE	85	ND
	TETRACHLOROETHYLENE(PCE)	12	ND
	CHLOROBENZENE	1600	ND
	GASOLINE		ND
BNA	NAPHTHALENE	1600	ND
	3- AND/OR 4-METHYLPHENOL	390	1.4 J
	DIESEL		25
P/PCB	AROCLOR-1254	1	ND
METAL	BARIUM, TOTAL	5500	71.2
	BERYLLIUM, TOTAL	160	ND
	CHROMIUM, TOTAL	230	9.8
	LEAD, TOTAL	400	ND
	NICKEL, TOTAL	1600	ND
	ARSENIC, TOTAL	.43	9.7 J X

Notes:

* " > CAL " equals "X" when reported value is above characterization action level for this locale.
J flag - Numerical value is an estimated quantity.
ND indicates Non-Detect
Blank cells in result column indicate an analysis was not performed for that analyte.

Table 4-3
Summary of Analytical Results

PRA		8	
PRA Description		PRA #8-GROUND WATER SAMPLES	
Sample Type	Field Duplicate (Rep)	Normal Sample	
Sample Id	BRN-AMW001-61001	BRN-AMW001-60001	BRN-ASB006-60001
Depth - ft bgs	0 - 0	0 - 0	0 - 0
Collected Date	05/19/97	05/19/97	05/19/97
Laboratory	Ecology and Environment, Inc.	Ecology and Environment, Inc.	Ecology and Environment, Inc.
Sample Collector	Baker Environmental, Inc.	Baker Environmental, Inc.	Baker Environmental, Inc.
Result Units	UG/L	UG/L	UG/L
Action Level		Result Flag	> CAL*
Category	Analyte	Result Flag	> CAL*
VOA	METHYLENE CHLORIDE	5	ND
BNA	DIESEL		ND
METAL	BARIUM, TOTAL	2000	230
	CHROMIUM, TOTAL	100	ND
	LEAD, TOTAL	15	ND
	NICKEL, TOTAL	100	ND
	ARSENIC, TOTAL	50	ND

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.
J flag - Numerical value is an estimated quantity.
ND indicates Non-Detect
Blank cells in result column indicate an analysis was not performed for that analyte.

Table 4-3
Summary of Analytical Results

PRA	10		
PRA Description	PRA #10-YARAL RUN		
Sample Type	Field Duplicate (Rep)		
Sample Id	BRN-ASB009-60001	BRN-ASB012-60001	BRN-ASW001-21001
Depth - ft bgs	0 - 0	0 - 0	0 - 0
Collected Date	05/19/97	05/20/97	05/19/97
Laboratory	Ecology and Environment, Inc.	Ecology and Environment, Inc.	Ecology and Environment, Inc.
Sample Collector	Baker Environmental, Inc.	Baker Environmental, Inc.	Baker Environmental, Inc.
Result Units	UG/L	UG/L	UG/L
Action Level	Result Flag	> CAL*	Result Flag
Category	Analyte		
VOA	METHYLENE CHLORIDE	5	ND
BNA	DIESEL		4400 J
METAL	BARIUM, TOTAL	2000	390
	CHROMIUM, TOTAL	100	63.0
	LEAD, TOTAL	15	77.0
	NICKEL, TOTAL	100	69.0
	ARSENIC, TOTAL	50	78.0
		X	X
			8
			160
			270
			59.0
			75.0
			66.0
			84.0
			X
			ND

Notes:

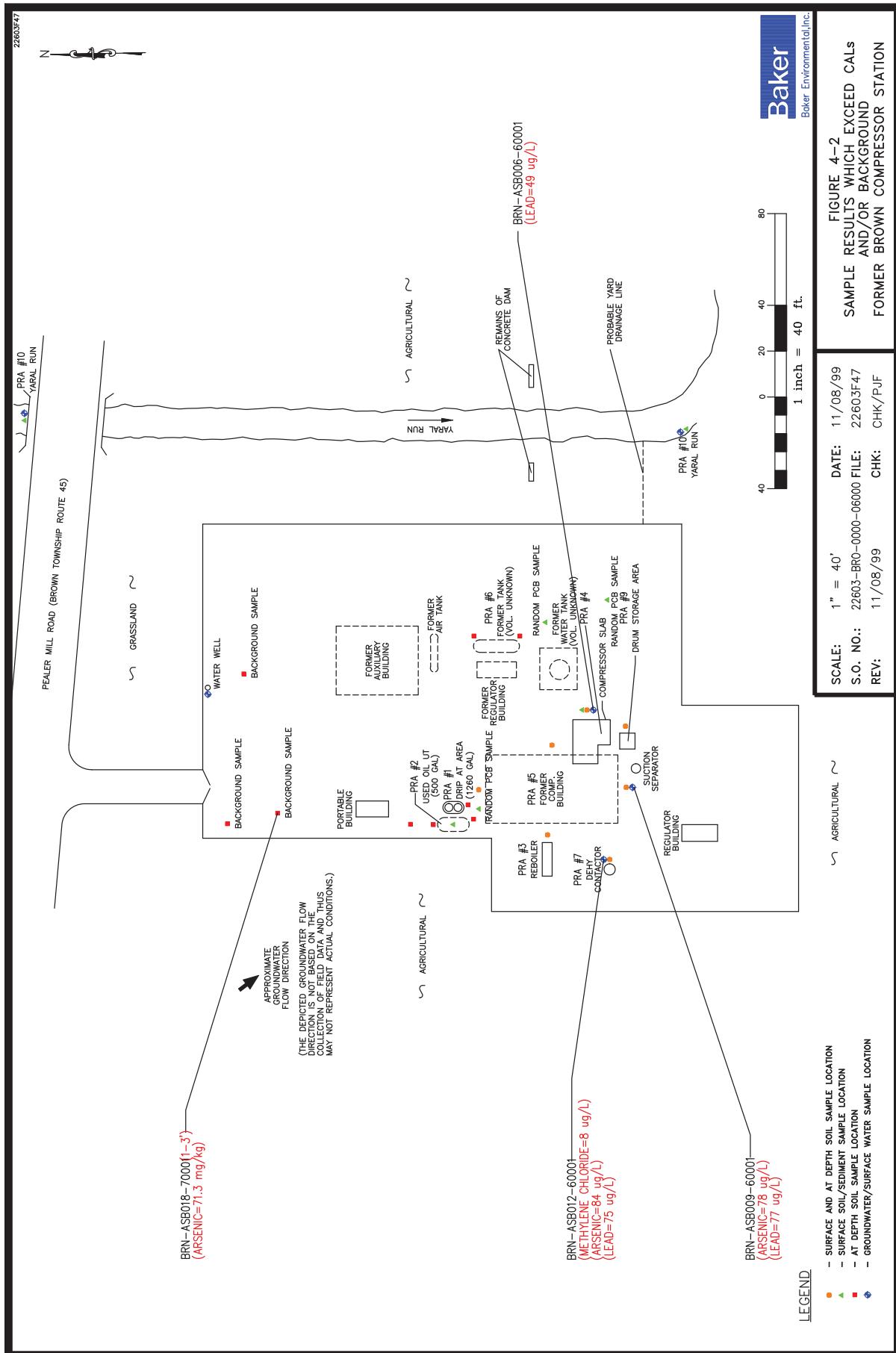
* "> CAL" equals "X" when reported value is above characterization action level for this locale.
J flag - Numerical value is an estimated quantity.
ND indicates Non-Detect
Blank cells in result column indicate an analysis was not performed for that analyte.

Table 4-3
Summary of Analytical Results

PRA					
PRA Description					
Sample Type	Normal Sample				
Sample Id	BRN-ASW001-20001				
Depth - ft bgs	0 - 0				
Collected Date	05/19/97				
Laboratory	Ecology and Environment, Inc.				
Sample Collector	Baker Environmental, Inc.				
Result Units	UG/L				
Category	Analyte	Action Level	Result Flag	> CAL*	Result Flag
VOA	METHYLENE CHLORIDE	5	ND		ND
BNA	DIESEL		ND		ND
METAL	BARIUM, TOTAL	2000	ND		ND
	CHROMIUM, TOTAL	100	ND		ND
	LEAD, TOTAL	15	ND		ND
	NICKEL, TOTAL	100	ND		ND
	ARSENIC, TOTAL	50	ND		ND

Notes:

* "> CAL" equals "X" when reported value is above characterization action level for this locale.
J flag - Numerical value is an estimated quantity.
ND indicates Non-Detect
Blank cells in result column indicate an analysis was not performed for that analyte.



Baker

Baker Environmental, Inc.
APPENDIX C

Test Boring Logs

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station

SO NO.: 22603-BRO BORING NO.: PRA 1

COORDINATES: EAST: NORTH:

ELEVATION: SURFACE: TOP OF PVC CASING:

Rig: Geoprobe					Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Liners	Casing	Augers	Core Barrel				
Size (ID)	1-5/8" I.D.	---	--	--	5/19/97	0.0 - 5.0		--
Length	4.0 feet	---	--	--				
Type	---	---	--	--				
Hammer Wt.	---	---	--	--				
Fall	---	---	--	--				

Remarks: Drip Tank (BTEX, PCBs, TPH)

SAMPLE TYPE						WELL INFORMATION			
S = Split Spoon A = Auger T = Shelby Tube W = Wash R = Air Rotary C = Core D = Denison P = Piston N = No Sample						Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	Lab ID	PID (ppm)		Visual Description	Well Installation Detail	Elevation (Ft. MSL)	
1	N								
2	N								
3	N								
4	4.0								
5	S-1		BRO-ASB-001-70001	0.0		SILTY CLAY; gray-brown; moist; plastic			
6						Bottom of Boring at 5.0'			
7									
8									
9									
10									

DRILLING CO.: Subsurface, Inc.

DRILLER: (b) (4)

BAKER REP.: (b) (4)

BORING NO.: PRA 1

SHEET 1 OF 1

Baker**Baker Environmental****TEST BORING RECORD**

PROJECT:

Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station

SO NO.:

22603-BRO

BORING NO.:

PRA2-Boring A

COORDINATES:

EAST:

NORTH:

ELEVATION:

SURFACE:

TOP OF PVC CASING:

Rig:	Geoprobe				Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Liners	Casing	Augers	Core Barrel				
Size (ID)	1-5/8" I.D.	---	--	--	5/19/97	0.0 - 12.0		--
Length	4.0 feet	---	--	--				
Type	---	---	--	--				
Hammer Wt.	---	--	--	--				
Fall	---	--	--	--				

Remarks: Used Oil UT (Table 1)

<u>SAMPLE TYPE</u> S = Split Spoon A = Auger T = Shelby Tube W = Wash R = Air Rotary C = Core D = Denison P = Piston N = No Sample					<u>WELL INFORMATION</u>			
					Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft., %)	Lab ID	PID (ppm)	Visual Description		Well Installation Detail	Elevation (Ft. MSL)
1								
2	N							
3								
4	4.0							
5								
6	N							
7								
8	8.0							
9								
10	10.0							

DRILLING CO.: Subsurface, Inc.

DRILLER: (b) (4)

BAKER REP.:

(b) (4)

BORING NO.:

PRA2-Boring A

SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station
CTO NO.: 22603-BRO BORING NO.: PRA2-Boring A

<u>SAMPLE TYPE</u>						<u>DEFINITIONS</u>		
S = Split Spoon A = Auger						SPT = Standard Penetration Test (ASTM D1586)		
T = Shelby Tube W = Wash						PID = Photo Ionization Detector Measurement		
R = Air Rotary C = Core						MSL = Mean Sea Level		
D = Denison P = Piston N = No Sample						ps/bg = point source/background		
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft., %)	LAB ID	PID (ppm)		Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11						Continued from Sheet 1		
12	12.0	S-1	BRO-ASB-002-70001	0.0		SILTY CLAY; brown		
13						Bottom of Boring at 12.0'		
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: Subsurface, Inc.
DRILLER: (b) (4)

BAKER REP.: (b) (4)
BORING NO.: PRA2-Boring A

SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station

SO NO.: 22603-BRO

BORING NO.:

PRA2-Boring B

COORDINATES: EAST:

NORTH:

ELEVATION: SURFACE:

TOP OF PVC CASING:

Rig:	Geoprobe				Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Liners	Casing	Augers	Core Barrel				
Size (ID)	1-5/8" I.D.	---	--	--	5/19/97	0.0 - 14.0		--
Length	4.0 feet	---	--	--				
Type	---	---	--	--				
Hammer Wt.	---	--	--	--				
Fall	---	--	--	--				

Remarks: Used Oil UT (Table I)

<u>SAMPLE TYPE</u> S = Split Spoon A = Auger T = Shelby Tube W = Wash R = Air Rotary C = Core D = Denison P = Piston N = No Sample						<u>WELL INFORMATION</u>			
						Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft., %)	Lab ID	PID (ppm)		Visual Description	Well Installation Detail		Elevation (Ft. MSL)
1	N								
2	N								
3									
4	4.0								
5									
6									
7	7.0							7.0	
8	S-1		BRO-ASB-003-70001	85.0		SAND (med. grained); wet; black stained			
9									
10	N								

DRILLING CO.: Subsurface, Inc.

DRILLER: (b) (4)

BAKER REP.: (b) (4)

BORING NO.: PRA2-Boring B

SHEET 1 OF 2

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station
 CTO NO.: 22603-BRO BORING NO.: PRA2-Boring B

<u>SAMPLE TYPE</u>						<u>DEFINITIONS</u>		
S = Split Spoon A = Auger						SPT = Standard Penetration Test (ASTM D1586)		
T = Shelby Tube W = Wash						PID = Photo Ionization Detector Measurement		
R = Air Rotary C = Core						MSL = Mean Sea Level		
D = Denison P = Piston N = No Sample						ps/bg = point source/background		
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft., %)	LAB ID	PID (ppm)		Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11						Continued from Sheet 1		
12	12.0						12.0	
13		S-2	BRO-ASB-003-70002	1.0		SILTY CLAY; gray and brown; stiff; slight odor		
14	14.0						14.0	
15						Bottom of Boring at 14.0'		
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: Subsurface, Inc.
 DRILLER: (b) (4)

BAKER REP.: (b) (4)
 BORING NO.: PRA2-Boring B

SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station

SO NO.: 22603-BRO

BORING NO.:

PRA2-Boring C

COORDINATES: EAST: _____

NORTH: _____

ELEVATION: SURFACE: _____

TOP OF PVC CASING: _____

Rig:	Geoprobe				Date	Progress (Ft.)	Weather		Depth to Water (Ft.)
	MC Liners	Casing	Augers	Core Barrel					
Size (ID)	1-5/8" I.D.	---	--	--	5/19/97	0.0 - 1.0			--
Length	4.0 feet	---	--	--					
Type	---	---	--	--					
Hammer Wt.	---	---	--	--					
Fall	---	---	--	--					

Remarks: Used Oil UT (Table 1), Collected at Fill Port

SAMPLE TYPE						WELL INFORMATION			
						Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
S = Split Spoon		A = Auger							
T = Shelby Tube		W = Wash							
R = Air Rotary		C = Core							
D = Denison		P = Piston							
N = No Sample									
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft. %)	Lab ID	PID (ppm)		Visual Description	Well Installation Detail		Elevation (Ft. MSL)
1	1.0	S-1	BRO-ASB-004-70001	0.0		SILTY CLAY; brown	1.0		
2						Bottom of Boring at 1.0'			
3									
4									
5									
6									
7									
8									
9									
10									

DRILLING CO.: Subsurface, Inc.

DRILLER: (b) (4)

BAKER REP.:

BORING NO.:

(b) (4)

PRA2-Boring C

SHEET 1 OF 1



Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station

SO NO.: 22603-BRO

BORING NO.:

PRA2-Boring D

COORDINATES: EAST:

NORTH:

ELEVATION: SURFACE:

TOP OF PVC CASING:

Rig:	Geoprobe				Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Liners	Casing	Augers	Core Barrel				
Size (ID)	1-5/8" I.D.	---	--	--	5/19/97	0.0 - 14.0		--
Length	4.0 feet	---	--	--				
Type	---	---	--	--				
Hammer Wt.	---	---	--	--				
Fall	---	---	--	--				

Remarks: Used Oil UT (Table 1), Step-out Boring from Boring "B" (10' North)

SAMPLE TYPE						WELL INFORMATION			
						Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	Lab ID	PID (ppm)		Visual Description	Well Installation Detail	Elevation (Ft. MSL)	
1									
2	N								
3									
4	4.0								
5						Sand Horizon at 4.8'			
6	N								
7									
8	8.0								
9									
10	N								

DRILLING CO.: Subsurface, Inc.

DRILLER: (b) (4)

BAKER REP.: (b) (4)

BORING NO.: PRA2-Boring D

SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORDPROJECT:
CTO NO.:Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station
22603-BRO

BORING NO.: PRA2-Boring D

SAMPLE TYPE

S = Split Spoon A = Auger
T = Shelby Tube W = Wash
R = Air Rotary C = Core
D = Denison P = Piston N = No Sample

DEFINITIONS

SPT = Standard Penetration Test (ASTM D1586)
PID = Photo Ionization Detector Measurement
MSL = Mean Sea Level
ps/bg = point source/background

Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft., %)	LAB ID	PID (ppm)		Visual Description	Well Installation Detail	Elevation (Ft. MSL)
11						Continued from Sheet 1		
12	12.0						12.0	
13	S-1		BRO-ASB-020-70001	0.0		SILTY CLAY; dark gray; stiff; med. plastic		
14	14.0					Bottom of Boring at 14.0'	14.0	
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: Subsurface, Inc.
DRILLER: (b) (4)BAKER REP.: (b) (4)
BORING NO.: PRA2-Boring D

SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station

SO NO.: 22603-BRO

BORING NO.:

PRA 3

COORDINATES:

EAST: _____

NORTH: _____

ELEVATION:

SURFACE: _____

TOP OF PVC CASING: _____

Rig:	Geoprobe					Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Liners	Casing	Augers	Core Barrel					
Size (ID)	1-5/8" I.D.	---	--	--	5/19/97	0.0 - 5.0			--
Length	4.0 feet	---	--	--					
Type	---	---	--	--					
Hammer Wt.	---	---	--	--					
Fall	---	---	--	--					

Remarks: Reboiler (Glycol, BTEX, TPH)

<u>SAMPLE TYPE</u> S = Split Spoon A = Auger T = Shelby Tube W = Wash R = Air Rotary C = Core D = Denison P = Piston N = No Sample						<u>WELL INFORMATION</u>			
						Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	Lab ID	PID (ppm)		Visual Description		Well Installation Detail	
1	1.0	S-1	BRO-ASB-005-70001	0.0		SILTY CLAY; brown			
	1.5	N						1.5	
2	2.5	S-2	BRO-ASB-005-70002	0.0		SAND (large grained); moist to wet			
	3	N							
4	4.0							4.0	
5	5.0	S-3	BRO-ASB-005-70003	0.0		SILTY CLAY; plastic; moist		5.0	
						Bottom of Boring at 5.0'			
6									
7									
8									
9									
10									

DRILLING CO.: Subsurface, Inc.
DRILLER: (b) (4)BAKER REP.: (b) (4)
BORING NO.: PRA 3

SHEET 1 OF 1



TEST BORING RECORD

Baker Environmental

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station

SO NO.: 22603-BRO

BORING NO.:

PRA 4

COORDINATES: EAST:

NORTH:

ELEVATION: SURFACE:

TOP OF PVC CASING:

Rig:	Geoprobe				Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Liners	Casing	Augers	Core Barrel				
Size (ID)	1-5/8" I.D.	---	--	--	5/19/97	0.0 - 5.0		--
Length	4.0 feet	---	--	--				
Type	---	---	--	--				
Hammer Wt.	---	--	--	--				
Fall	---	--	--	--				

Remarks: Current Compressor Slab (PCB, BTEX, TPH)

SAMPLE TYPE						WELL INFORMATION			
						Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
S = Split Spoon A = Auger									
T = Shelby Tube W = Wash									
R = Air Rotary C = Core									
D = Denison P = Piston									
N = No Sample									
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft., %)	Lab ID	PID (ppm)		Visual Description	Well Installation Detail	Elevation (Ft. MSL)	
1	1.0	S-1	BRO-ASB-006-70001	0.0					
	1.5	N							
2	2.5	S-2	BRO-ASB-006-70002	0.0					
3		N							
4	4.0								
5	5.0	S-3	BRO-ASB-006-70003	0.0			5.0		
						Bottom of Boring at 5.0'			
6									
7									
8									
9									
10									

DRILLING CO.: Subsurface, Inc.
DRILLER: (b) (4)BAKER REP.: (b) (4)
BORING NO.: PRA 4

SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station

SO NO.: 22603-BRO

BORING NO.:

PRA5-Boring A

COORDINATES: EAST:

NORTH:

ELEVATION: SURFACE:

TOP OF PVC CASING:

Rig:	Geoprobe				Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Liners	Casing	Augers	Core Barrel				
Size (ID)	1-5/8" I.D.	---	--	--	5/19/97	0.0 - 5.0		--
Length	4.0 feet	---	--	--				
Type	---	---	--	--				
Hammer Wt.	---	---	--	--				
Fall	---	---	--	--				

Remarks: Former Compressor Bldg. Area (PCBs, BTEX, TPH)

<u>SAMPLE TYPE</u> S = Split Spoon A = Auger T = Shelby Tube W = Wash R = Air Rotary C = Core D = Denison P = Piston N = No Sample						<u>WELL INFORMATION</u>			
						Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft. %)	Lab ID	PID (ppm)		Visual Description	Well Installation Detail		Elevation (Ft. MSL)
1	S-1		BRO-ASB-007-70001	0.0		GRAVELLY CLAY; brown			
1.5	N								
2	S-2		BRO-ASB-007-70002	0.0					
2.5									
3	N								
4	4.0								
5	S-3		BRO-ASB-007-70003	0.0		moist		5.0	
5.0									
6						Bottom of Boring at 5.0'			
7									
8									
9									
10									

DRILLING CO.: Subsurface, Inc.

DRILLER: (b) (4)

BAKER REP.: (b) (4)

BORING NO.: PRA5-Boring A

SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station

SO NO.: 22603-BRO

BORING NO.:

PRA5-Boring B

COORDINATES: EAST:

NORTH:

ELEVATION: SURFACE:

TOP OF PVC CASING:

Rig:	Geoprobe				Date	Progress (Ft.)	Weather		Depth to Water (Ft.)
	MC Liners	Casing	Augers	Core Barrel					
Size (ID)	1-5/8" I.D.	---	--	--	5/19/97	0.0 - 5.0			--
Length	4.0 feet	---	--	--					
Type	---	---	--	--					
Hammer Wt.	---	---	--	--					
Fall	---	---	--	--					

Remarks: Former Compressor Bldg. Area (PCBs, BTEX, TPH)

<u>SAMPLE TYPE</u> S = Split Spoon A = Auger T = Shelby Tube W = Wash R = Air Rotary C = Core D = Denison P = Piston N = No Sample					<u>WELL INFORMATION</u>			
					Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft., %)	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)	
1	1.0	S-1	BRO-ASB-008-70001	0.0	GRAVELLY CLAY; gray; damp			
	1.5	N						
2	2.5	S-2	BRO-ASB-008-70002	100.0				
	3	N						
4	4.0				moist			
5	5.0	S-3	BRO-ASB-008-70003	6.0		5.0		
	6				Bottom of Boring at 5.0'			
7								
8								
9								
10								

DRILLING CO.: Subsurface, Inc.

DRILLER: (b) (4)

BAKER REP.:

BORING NO.: PRA5-Boring B

(b) (4)

SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station

SO NO.: 22603-BRO

BORING NO.:

PRA5-Boring C

COORDINATES: EAST:

NORTH:

ELEVATION: SURFACE:

TOP OF PVC CASING:

Rig:	Geoprobe				Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Liners	Casing	Augers	Core Barrel				
Size (ID)	1-5/8" I.D.	---	--	--	5/19/97	0.0 - 5.0		--
Length	4.0 feet	---	--	--				
Type	---	---	--	--				
Hammer Wt.	---	---	--	--				
Fall	---	---	--	--				

Remarks: Former Compressor Bldg. Area (PCBs, BTEX, TPH)

<u>SAMPLE TYPE</u> S = Split Spoon A = Auger T = Shelby Tube W = Wash R = Air Rotary C = Core D = Denison P = Piston N = No Sample						<u>WELL INFORMATION</u>			
						Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	Lab ID	PID (ppm)		Visual Description	Well Installation Detail		Elevation (Ft. MSL)
1	1.0	S-1	BRO-ASB-009-70001	0.0		GRAVELLY CLAY; gray; damp			
	1.5	N							
2	2.5	S-2	BRO-ASB-009-70002	0.0					
3		N							
4	4.0								
5	5.0	S-3	BRO-ASB-009-70003	3.0		moist		5.0	
						Bottom of Boring at 5.0'			
6									
7									
8									
9									
10									

DRILLING CO.: Subsurface, Inc.
DRILLER: (b) (4)BAKER REP.: (b) (4)
BORING NO.: PRA5-Boring C SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station

SO NO.: 22603-BRO

BORING NO.: PRA6-Boring A

COORDINATES: EAST:

NORTH:

ELEVATION: SURFACE:

TOP OF PVC CASING:

Rig: Geoprobe					Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Liners	Casing	Augers	Core Barrel				
Size (ID)	1-5/8" I.D.	---	--	--	5/20/97	0.0 - 12.0		--
Length	4.0 feet	---	--	--				
Type	---	---	--	--				
Hammer Wt.	---	---	--	--				
Fall	---	---	--	--				

Remarks: Former Tank Area (Table 1-CWP)

SAMPLE TYPE						WELL INFORMATION				
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	Lab ID	PID (ppm)		Visual Description	Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
1										
2										
3										
4	4.0	N								
5										
6										
7										
8	8.0	N				SILTY CLAY TO LARGE GRADED, POORLY SORTED WET SAND; brown	5.5			
9						SILTY CLAY; gray; stiff; impermeable	7.0			
10	10.0						10.0			

DRILLING CO.: Subsurface, Inc.

(b) (4)

BAKER REP.:

(b) (4)

BORING NO.:

PRA6-Boring A

SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station
 CTO NO.: 22603-BRO BORING NO.: PRA6-Boring A

<u>SAMPLE TYPE</u>					<u>DEFINITIONS</u>			
S = Split Spoon A = Auger					SPT = Standard Penetration Test (ASTM D1586)			
T = Shelby Tube W = Wash					PID = Photo Ionization Detector Measurement			
R = Air Rotary C = Core					MSL = Mean Sea Level			
D = Denison P = Piston N = No Sample					ps/bg = point source/background			
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft., %)	LAB ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)	
11					Continued from Sheet 1			
12	12.0	S-1	BRO-ASB-011-70001	0.0	SANDY CLAY; gray; dry	12.0		
13					Bottom of Boring at 12.0'			
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: Subsurface, Inc.
 DRILLER: (b) (4)

BAKER REP.: (b) (4)
 BORING NO.: PRA6-Boring A

SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station

SO NO.: 22603-BRO

BORING NO.: PRA6-Boring B

COORDINATES: EAST:

NORTH:

ELEVATION: SURFACE:

TOP OF PVC CASING:

Rig: Geoprobe	MC Liners	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.	---	--	--	5/20/97	0.0 - 12.0		--
Length	4.0 feet	---	--	--				
Type	---	---	--	--				
Hammer Wt.	---	---	--	--				
Fall	---	---	--	--				

Remarks: Former Tank Area (Table 1-CWP)

Depth (Ft.)	SAMPLE TYPE					WELL INFORMATION			
	Sample Type & No.	Sample Rec. (Ft., %)	Lab ID	PID (ppm)	Visual Description	Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
1									
2	N								
3									
4	4.0								
5									
6	N								
7									
8	8.0								
9									
10	10.0								

DRILLING CO.: Subsurface, Inc.

DRILLER: (b) (4)

BAKER REP.: (b) (4)

BORING NO.: PRA6-Boring B

SHEET 1 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station
 CTO NO.: 22603-BRO BORING NO.: PRA6-Boring B

<u>SAMPLE TYPE</u>					<u>DEFINITIONS</u>			
S = Split Spoon A = Auger T = Shelby Tube W = Wash R = Air Rotary C = Core D = Denison P = Piston N = No Sample					SPT = Standard Penetration Test (ASTM D1586) PID = Photo Ionization Detector Measurement MSL = Mean Sea Level ps/bg = point source/background			
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft., %)	LAB ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)	
11					Continued from Sheet 1			
12	12.0	S-1	BRO-ASB-010-70001	0.0	CLAY; gray; stiff; non-permeable Duplicate (BRO-ASB010-71001) 12.0			
13					Bottom of Boring at 12.0'			
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								

DRILLING CO.: Subsurface, Inc.
 DRILLER: (b) (4)

BAKER REP.: (b) (4)
 BORING NO.: PRA6-Boring B

SHEET 2 OF 2

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station

SO NO.: 22603-BRO

BORING NO.:

PRA 7

COORDINATES: EAST:

NORTH:

ELEVATION: SURFACE:

TOP OF PVC CASING:

Rig:	Geoprobe				Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Liners	Casing	Augers	Core Barrel				
Size (ID)	1-5/8" I.D.	---	--	--	5/20/97	0.0 - 5.0		--
Length	4.0 feet	---	--	--				
Type	---	---	--	--				
Hammer Wt.	---	---	--	--				
Fall	---	---	--	--				

Remarks: Dehy Contactor (PCBs, BTEX, TPH)

<u>SAMPLE TYPE</u> S = Split Spoon A = Auger T = Shelby Tube W = Wash R = Air Rotary C = Core D = Denison P = Piston N = No Sample						<u>WELL INFORMATION</u>			
						Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft., %)	Lab ID	PID (ppm)	Visual Description		Well Installation Detail	Elevation (Ft. MSL)
1	1.0	S-1		BRO-ASB-012-70001	0.0	GRAVELLY SAND; wet collect MS/MSD			
	1.5	N						1.5	
2	2.5	S-2		BRO-ASB-012-70002	0.0	SILTY CLAY; brown; moist; plastic			
3		N							
4	4.0								
5	5.0	S-3		BRO-ASB-012-70003	0.0	Bottom of Boring at 5.0'		5.0	
6									
7									
8									
9									
10									

DRILLING CO.: Subsurface, Inc.

DRILLER: (b) (4)

BAKER REP.: (b) (4)

BORING NO.: PRA 7

SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station

SO NO.: 22603-BRO

BORING NO.:

PRA10-Boring A

COORDINATES: EAST:

NORTH:

ELEVATION: SURFACE:

TOP OF PVC CASING:

Rig: Geoprobe	MC Liners	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.	---	--	--	5/20/97	0.0 - 3.0		--
Length	4.0 feet	---	--	--				
Type	---	---	--	--				
Hammer Wt.	---	--	--	--				
Fall	---	--	--	--				

Remarks: Background

SAMPLE TYPE						WELL INFORMATION			
						Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
S = Split Spoon	A = Auger								
T = Shelby Tube	W = Wash								
R = Air Rotary	C = Core								
D = Denison	P = Piston								
N = No Sample									
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	Lab ID	PID (ppm)		Visual Description	Well Installation Detail	Elevation (Ft. MSL)	
1 1.0	N								
2	S-1		BRO-ASB-016-70001	0.0		SILTY CLAY; brown; stiff, moist Collect MS/MSD	1.0		
3 3.0						Bottom of Boring at 3.0'	3.0		
4									
5									
6									
7									
8									
9									
10									

(b) (4)

DRILLING CO.: Subsurface, Inc.

DRILLER:

(b) (4)

BAKER REP.:

BORING NO.:

PRA10-Boring A

SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station

SO NO.: 22603-BRO

BORING NO.:

PRA10-Boring B

COORDINATES: EAST:

NORTH:

ELEVATION: SURFACE:

TOP OF PVC CASING:

Rig: Geoprobe	MC Liners	Casing	Augers	Core Barrel	Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
Size (ID)	1-5/8" I.D.	---	--	--	5/20/97	0.0 - 3.0		--
Length	4.0 feet	---	--	--				
Type	---	---	--	--				
Hammer Wt.	---	--	--	--				
Fall	---	--	--	--				

Remarks: Background

SAMPLE TYPE S = Split Spoon A = Auger T = Shelby Tube W = Wash R = Air Rotary C = Core D = Denison P = Piston N = No Sample					WELL INFORMATION			
					Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	Lab ID	PID (ppm)	Visual Description	Well Installation Detail	Elevation (Ft. MSL)	
1	1.0	N						
2	S-1		BRO-ASB-017-70001	0.0	SILTY CLAY; brown; stiff; moist	1.0		
3	3.0				Bottom of Boring at 3.0'	3.0		
4								
5								
6								
7								
8								
9								
10								

DRILLING CO.: Subsurface, Inc.

DRILLER: (b) (4)

BAKER REP.: (b) (4)

BORING NO.: PRA10-Boring B

SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station

SO NO.: 22603-BRO

BORING NO.:

PRA10-Boring C

COORDINATES: EAST:

NORTH:

ELEVATION: SURFACE:

TOP OF PVC CASING:

Rig:	Geoprobe				Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Liners	Casing	Augers	Core Barrel				
Size (ID)	1-5/8" I.D.	---	--	--	5/20/97	0.0 - 3.0		--
Length	4.0 feet	---	--	--				
Type	---	---	--	--				
Hammer Wt.	---	---	--	--				
Fall	---	---	--	--				

Remarks: Background

<u>SAMPLE TYPE</u> S = Split Spoon A = Auger T = Shelby Tube W = Wash R = Air Rotary C = Core D = Denison P = Piston N = No Sample						<u>WELL INFORMATION</u>			
						Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Depth (Ft.)	Sample Type & No.	Sample Rec. (Ft.,%)	Lab ID	PID (ppm)		Visual Description		Well Installation Detail	Elevation (Ft. MSL)
1	1.0	N							
2						SILTY CLAY; brown; stiff; moist	1.0		
3	3.0	S-1	BRO-ASB-018-70001	0.0				3.0	
4						Bottom of Boring at 3.0'			
5									
6									
7									
8									
9									
10									

DRILLING CO.: Subsurface, Inc.

DRILLER: (b) (4)

BAKER REP.: (b) (4)

BORING NO.: PRA10-Boring C

SHEET 1 OF 1

Baker

Baker Environmental

TEST BORING RECORD

PROJECT: Site Characterization at Columbia Gas Transmission - Former Brown Compressor Station

SO NO.: 22603-BRO

BORING NO.:

PRA 11

COORDINATES: EAST: _____

NORTH: _____

ELEVATION: SURFACE: _____

TOP OF PVC CASING: _____

Rig:	Geoprobe				Date	Progress (Ft.)	Weather	Depth to Water (Ft.)
	MC Liners	Casing	Augers	Core Barrel				
Size (ID)	1-5/8" I.D.	---	--	--	5/20/97	0.0 - 5.0		--
Length	4.0 feet	---	--	--				
Type	---	---	--	--				
Hammer Wt.	---	---	--	--				
Fall	---	---	--	--				

Remarks: Drum Storage Area (Table 1 and Glycol)

<u>SAMPLE TYPE</u> S = Split Spoon A = Auger T = Shelby Tube W = Wash R = Air Rotary C = Core D = Denison P = Piston N = No Sample						<u>WELL INFORMATION</u>			
						Type	Diam.	Top Depth (Ft.)	Bottom Depth (Ft.)
Depth (Ft.)		Sample Type & No.	Sample Rec. (Ft.,%)	Lab ID	PID (ppm)	Visual Description		Well Installation Detail	
1		S-1		BRO-ASB-019-70001	0.0	GRAVELLY CLAYEY SILT; dk. brown			
1.5		N							
2		S-2		BRO-ASB-019-70002	0.0				
2.5									
3		N							
4									
5		S-3		BRO-ASB-019-70003	0.0	Bottom of Boring at 5.0'			
5.0									
6									
7									
8									
9									
10									

DRILLING CO.: Subsurface, Inc.
DRILLER: (b) (4)BAKER REP.: (b) (4)
BORING NO.: PRA 11

SHEET 1 OF 1